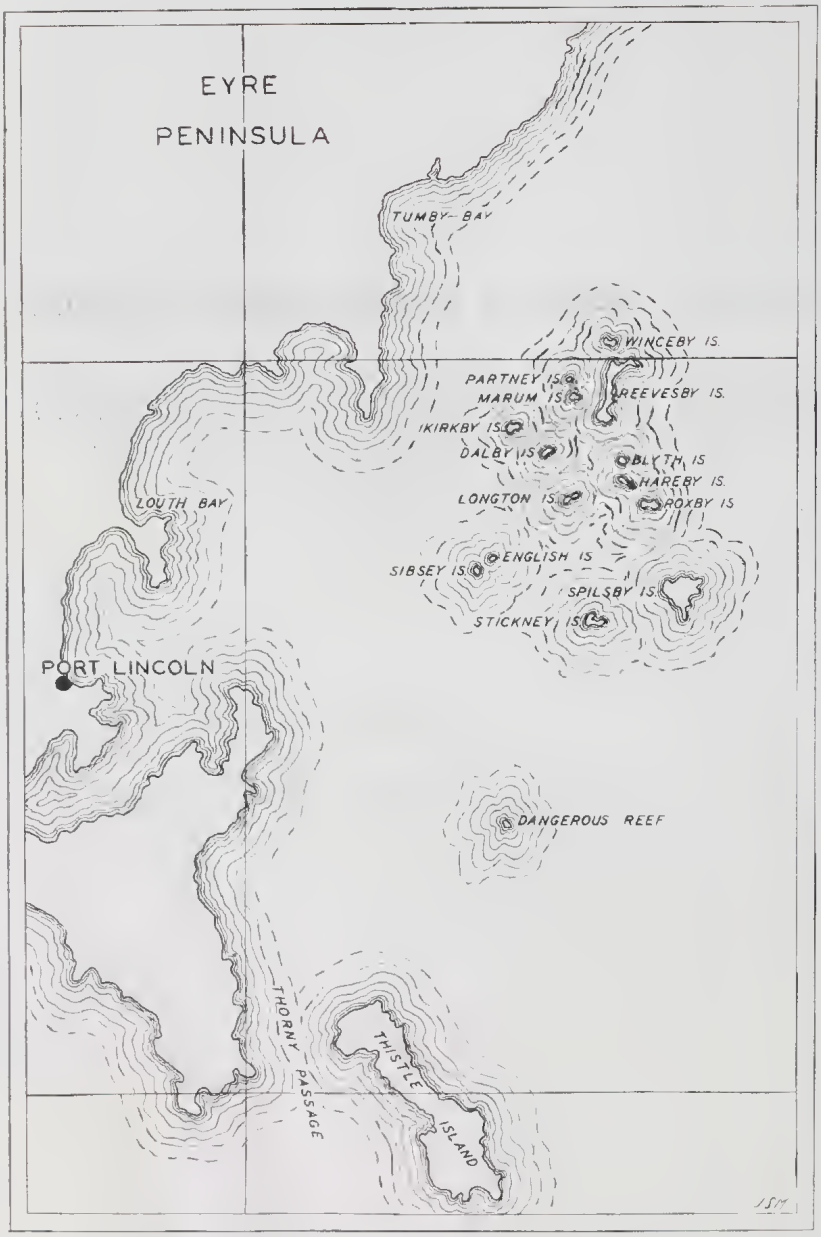
ART. VIII.—THE SIR JOSEPH BANKS ISLANDS.

REPORTS OF THE EXPEDITION OF THE McCOY SOCIETY FOR FIELD INVESTIGATION AND RESEARCH.

PART TWO.

Contents.



The Sir Joseph Banks Islands.

1. *Geology.*

By IRENE E. DEWHURST, B.Sc.

The islands of the Sir Joseph Banks Group are part of Fenner's Spencer-Vincent Sunkland, and have the same geological history as the neighbouring mainland. The islands consist of ancient granites and gneisses capped by travertine and blown sands. Throughout the group the islands are small and low, the highest points being 162 feet on Spilsby, and 91 feet on Reevesby. Most of the following geological notes were made on Reevesby Island.

Reevesby Island originally consisted of three separate islets, which are now connected by sand dunes. Owing to the arid climate and the porous surface deposits no valleys have been cut by streams, and the physiography of the group is governed by the action of wind and waves.

The principal land-forms are sand-dunes and sandy plains. Sand-dunes extend along almost the whole east coast from McCoy Bay to Haystack Bay, but are less continuous on the west coast; low sand-hills practically surround the sand plain on which the camp was situated and form parallel ridges behind the coastal sand-dunes. Except where bound by vegetation, the dunes, particularly the dunes forming the ties, are shifting. Some sand-hills, such as the hill of 60 feet towards the north end of Reevesby Island, are more permanent. The physiography of the other islands is, in general, dominated by blown sand; high sand-hills completely encircle Blyth Island, leaving a sandy hollow in the middle.

Towards the south end of Reevesby are two salt pans occupying areas to which, at one time, the sea had access and deposited salt.

The coastline of the north and south ends of Reevesby Island, is low and rugged; elsewhere are open shallow bays, with long beaches and small projecting headlands or reefs.

Where granites and gneisses outcrop at sea-level, two sets of joints favour the formation of tors and boulders.

Travertine outcropping at sea-level is undercut by the waves, and pot holes and small storm caves are common in this rock.

Low reefs of lateritic ironstone some 7 or 8 square chains in area occur on the west coast of the south end of Reevesby Island, and also off Roxby Island.

The coast is shelving, and at low tide the sea recedes 20 or 30 yards. On the west coast of Reevesby, a sand spit extending south-westerly from Middle Rocks has been formed by currents sweeping sands from the north. Moreton Bay is fast being silted up.

The following series of formations is found:—

1. *Recent Sands.*—Coastal dunes and loose sands extending inland, formed of granitic detritus and comminuted shells.

2. *Older Sand-hills.*—Friable dune rock formed by consolidation of similar sands. Recent shells, very little altered, were found in a small excavation in this rock near the camp.

3. *Travertine.*—More or less massive limestone, fairly pure to coarse and sandy; bedded, concretionary or nodular; it generally rests immediately upon the ancient granite-gneiss complex. A cliff 15 to 20 feet high at the south end of Reevesby Island gives the following section:—

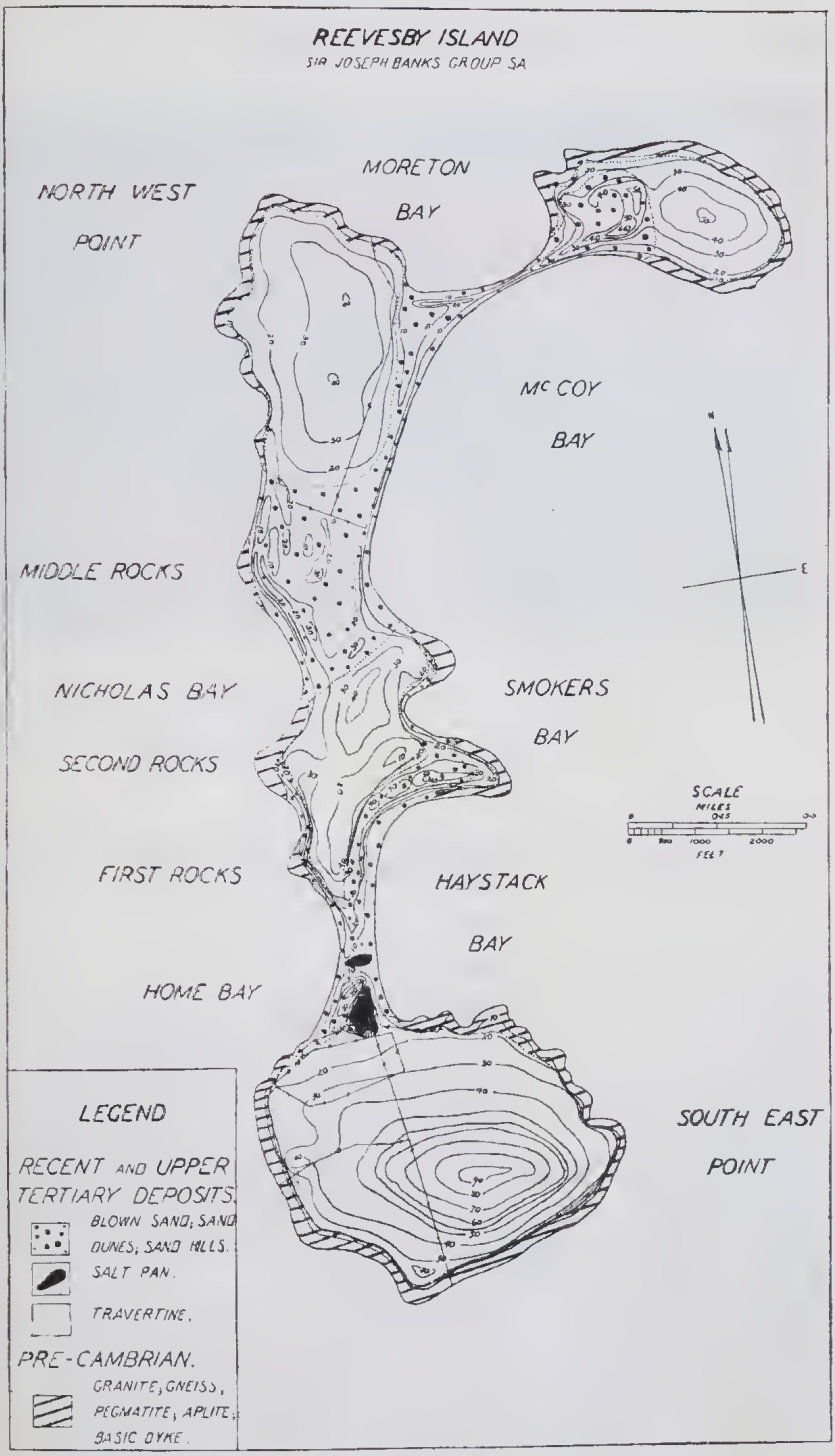
(i) Red clay with buckshot, 3 feet (base).
(ii) Impure reddish travertine passing up to white, nodular travertine, 7 feet.
(iii) Sandy travertine, 3 feet.
(iv) Red travertine soil, 2 feet (top).

The section apparently represents two phases: the first (i, ii) followed after an interval by a second (iii, iv).

4. *Lateritic Ironstone.*—Thin beds exposed as reefs at low tide. They rest immediately on granitic rocks, from which they have been formed by weathering. The lateritic ironstone consists of felspar (5 per cent.), biotite (10 per cent.), limonite and haematite (20–30 per cent.), cliachite (50 per cent.) in about the proportions shown, and is associated with bauxite and common ironstone. Elsewhere it is replaced by ferruginous grit consisting of siliceous grains cemented by iron oxide.

5. *The Pre-Cambrian Complex.*—The granite-gneiss complex seldom outcrops except on the coast. The rock types are:—

(i) *Norite.*—Forms dark-coloured dense "basic dykes" and patches in the granites. The rock consists of plagioclase, a little orthoclase, pyroxenes (hypersthene and a little diopside) biotite, accessory augite, magnetite and ilmenite.
(ii) *Pegmatite and Aplite.*—Plentiful dykes, veins and tongues. Some pegmatites are extremely coarse grained mixtures of massive pink felspar and blue to white quartz. The aplites, usually pink are fine, even grained, saccharoid rocks consisting of quartz, plagioclase (sericitized), minor orthoclase, microcline, myrmekite, muscovite, biotite (chloritized), with a little magnetite and ilmenite altering to leucoxene. Occasionally mortar structure has been developed.
(iii) *Granites.*—Coarse-grained throughout, red or grey in colour, frequently gneissic. The gneissic types are generally porphyritic.



Geology of Reevesby Is.—Field work by Alan Gordon and Irene E. Dewhurst.

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(iv) *Acid Gneisses:*—

(*a*) Augen Gneiss.—Very abundant. The augens are mainly of felspar. The rock consists of quartz with undulose extinction, felspars (microcline, les abundant orthoclase, microperthite and oligoclase), biotite (with inclusions of apatite and zircon), magnetite (altered to haematite), ilmenite (altered to leucoxene). Quartz and orthoclase form symplektitic intergrowths, and the oligoclase contains vermicular inclusions of quartz.

(*b*) Biotite-Granite Gneiss.—A normal type composed of felspar, quartz, and biotite.

(*c*) Granulite.—Less common. An even-grained, granular rock consisting of hornblende, hypersthene, less abundant biotite, quartz, plagioclase, and small grains of ilmenite.

(v) *Basic Gneiss.*—A dark-grey amphibolite, sometimes schistose, occurring both in irregular patches and in definite bands in the acid gneisses. The bands have their longer axes parallel to the foliation in the gneiss (Pl. 8, f. 1).

Wade and others consider that these gneisses represent metamorphosed limestones.

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Tilley, C. E.—Pre-Cambrian Para-Gneisses of Southern Eyre Peninsula, S. Aust. *Geol. Mag.*, 1921, pp. 251-259, 305-312.

Wade, A.—The Supposed Oil-bearing Areas of S. Aust. *Bull 4, Geol. Surv. S. Aust.*, 1915, pp. 54, map.

Explanation of Plates.

Fig. 1. Relationship of Acid gneiss (g), norite (n), aplite (ap.) and amphibolite (a).
Fig. 2.—Channel formed by weathered "basic dyke".

Fig. 1.

Fig. 2.

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2. *Survey of the Vegetation Community on Reevesby Island.*

By R. H. HAYMAN, B.Agr. Sc. and E. E. HENTY, B.Agr. Sc.

The survey was made over a period of three weeks in January, 1937. The accompanying map shows the main vegetation communities observed during that time. It was noted that each community was largely confined to its own soil type; the map could therefore be used as a rough soil map also.

The soils are predominantly sandy in character, varying from a shallow red sandy loam over travertine limestone at a depth of 3-6 inches to a white sandy loam over travertine, or deep white sand on the dunes.

The vegetation of the island is divided into four communities:—

1. The saltbush plain.
2. The *Myoporum-Olearia* community.
3. The sand dunes.
4. The salt pans.

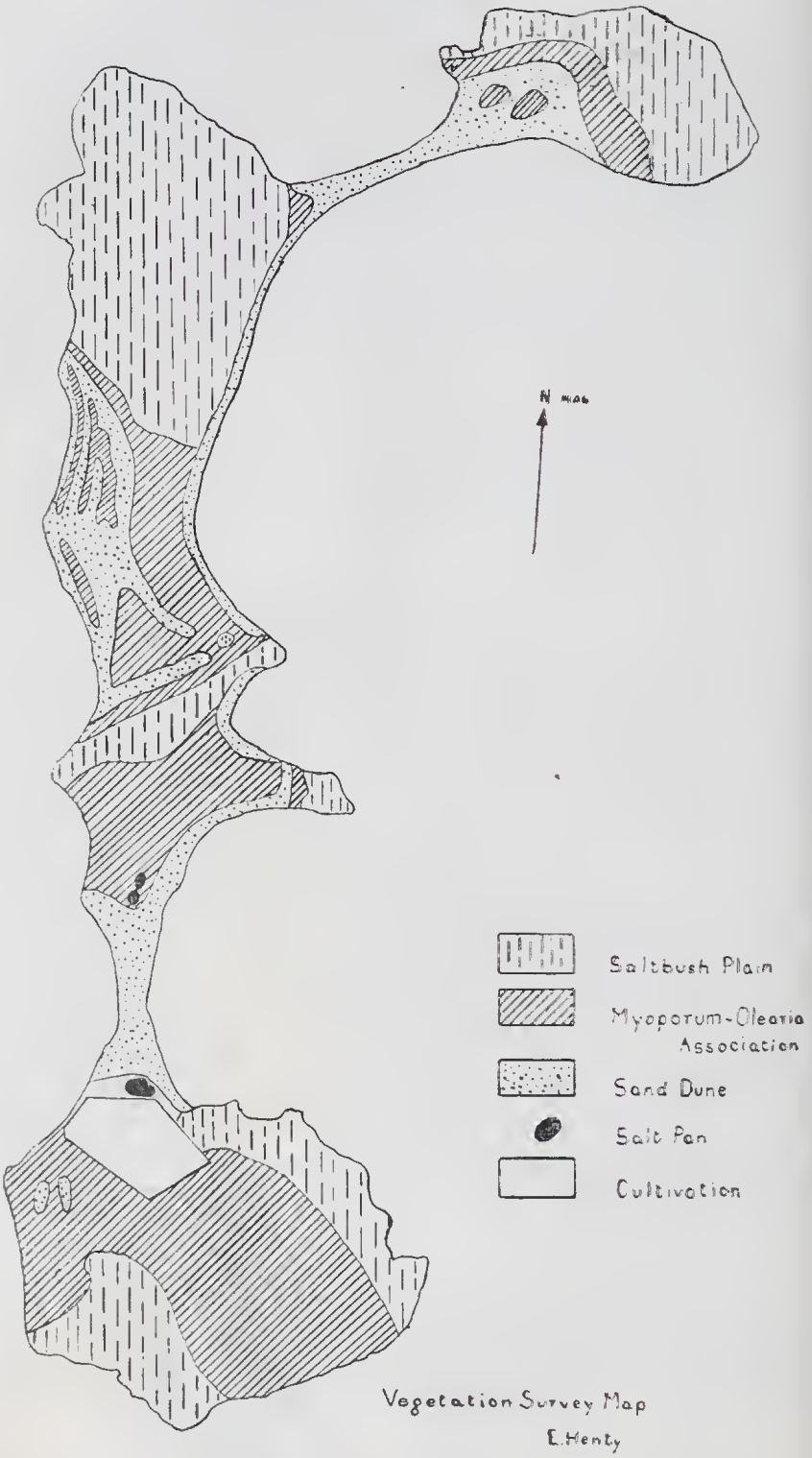
1. The Saltbush Plain.

This occupies about one-third of the area of the island, chiefly towards the northern end, and is typical of the shallow red sandy soils. The dominant plant is *Atriplex paludosum*, which grows in roughly circular patches ranging in diameter from 4-10 feet. In many cases the centres of the patches are dead, leaving an annulus of green material; this is possibly due to the grazing and trampling of sheep which are kept on the island. *Atriplex Muelleri* and *Rhagodia crassifolia* occur to some extent; *Lycium australe* is a feature of the higher and more barren parts of the community; and stunted bushes of *Myoporum insulare* are scattered throughout the area. All the shrubs are fairly well separated, giving an open community. Grasses and herbaceous annual plants are little in evidence at this time of the year, except *Pelargonium australe*, which is widespread. The only grasses still green at this time are *Festuca rigida, Lepturus incurvatus, Danthonia semi-annularis* and *Stipa scabra*. Residues of many other grasses, including *Hordeum murinum, Festuca bromoides, Koeleria phleoides* and several species of Stipas, are also present, indicating an abundant gramineous flora during the rainy season. *Mesembrianthemum australe* is widespread, and *M. crystallinum* is also present where the original saltbush has been destroyed. Burrs of *Medicago denticulata* are also common.

2. The Myoporum-*Olearia* community.

Olearia axillaris is dominant and *Calocephalus Browni* subdominant on the small plains along the sand dunes on the west side of the island. On the deep soil near the dunes and on the fringe of the saltbush plains *Myoporum insulare* becomes

REEVESBY ISLAND



Vegetation Survey Map

E. Henty

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dominant, though in the latter place the shrubs are very stunted. The distribution of the *Olcaria* is apparently affected by the depth of the soil, and its range is more limited than *Myoporum*, as it is absent where the soil is shallow along the edge of the saltbush plain, and also where the soil deepens along the edge of the sand dunes, *Myoporum* assuming the dominance in each case.

In the complex the *Myoporum* grows to a height of about 12 feet and is generally covered by the trailing *Muehlenbeckia adpressa* which is a feature of the community. *Olcaria axillaris* and *O. ramulosa* grow to a height of 5-7 feet. Two stunted trees of *Casuarina stricta*, five specimens of *Eucalyptus angulosum* and several specimens of *Acacia rupicola* are present. This is by far the tallest association on the island.

3. The Sand Dunes.

Sand dunes occur along most of the eastern foreshore, in the west central part of the island, and on the two narrow necks to the north and south of the island.

Vegetation on the dunes is very scattered; *Myoporum insulare* is the main plant, and *Muehlenbeckia adpressa* accompanies it. In several places *Atriplex cinereum* is present as large shrubs. *Spinifex hirsutus* is present in isolated patches, and *Ammophila arenaria* and *Lolium rigidum* are also to be found.

The dunes along the east coast show signs of moving inland; along their inner edges are clear indications that the scrub is being covered over (Pl. IX., fig. 1).

4. The Salt Pans.

The vegetation is here composed mainly of *Suaeda australis* and *Arthrocnemum halocnemoides* var. *pergranulatum*, interspersed with large areas of vacant ground. The pans consist of an impermeable layer of clay and are flooded after rain. Salt crystals occur on the surface.

General.

The climate of the island is semi-arid with winter rain. The rainfall of the adjacent mainland is 15 inches approximately, and the 15-in. isohyet passes through the group of islands. The perennial plants are either xerophytic or succulent, while the annuals are true mesophytes with a winter growing period, maturing before the summer drought sets in.

Variation in the vegetation seems to be due almost entirely to edaphic factors, the climate being uniform over such a small area, while aspect, as a factor, is largely eliminated by the flat nature of the island.

Atriplex paludosum grows only on the shallow red sandy soil; *Myoporum insulare* on all soils, but less effectively on the shallow soil; *Olcaria axillaris* is restricted to those areas where there is only about 12 inches of soil above the travertine; and *Atriplex cinereum* to the deep sand.

Explanation of Plates.

PLATE IX.

Fig. 1.—Typical *Myoporum-Olearia* community. In the left foreground a sand dune is seen moving inland and covering an *Olearia* shrub.

Fig. 2.—Small plain among sand dunes, showing the dominance of the *Olearia*.

PLATE X.

Fig. 1.—Typical sand dunes and their vegetation.

Fig. 2.—Typical salt pan; *Myoporum-Olearia* community in the foreground, sand dunes in the rear.

Fig. 1.

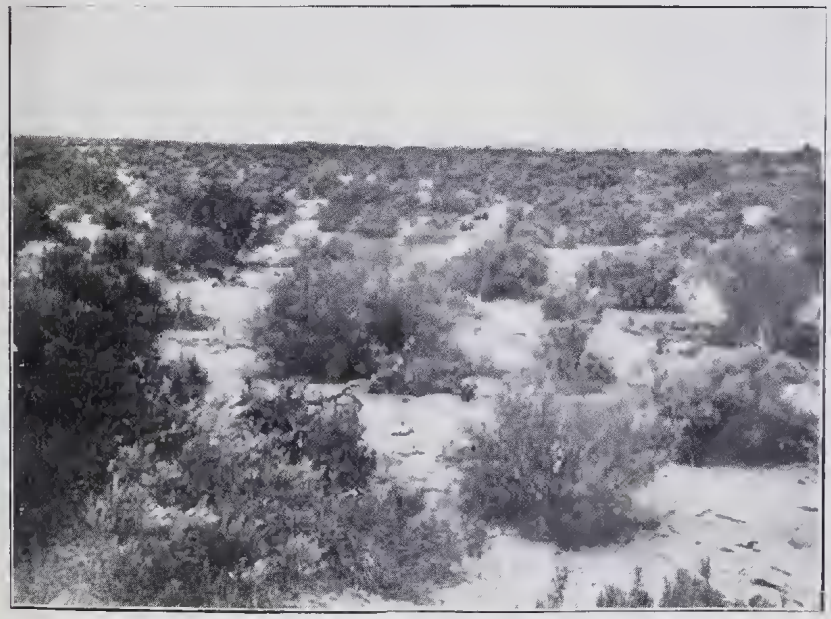

Fig. 2.

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Fig. 1.

Fig. 2.

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3. *Lichens.*

By ETHEL M. SHACKELL, M.Sc.

All forms collected are well known Southern Australian species. They occurred commonly on the rocks around the sea fronts of the islands, some spreading inland on rocks or dead wood. Two species are confined to inland localities where they were found on Austral Box Thorn (*Lycium australe*). Weathering of the crustaceous species was pronounced on the exposed rock surfaces, the older central regions of the thallus being disintegrated by repeated swelling and contracting of the deeply areolated plant body in response to alternating wet and dry conditions. Particles of the thallus thus become easily dislodged, leaving bare places in the centre of the thallus. These patches may become recolonized in time, either by the same lichen or by an invading species.

The classification follows Fink (The Lichen Flora of the United States, 1935, pp. 1-426).

Class ASCOLICHENES.

Subclass GYMNOCARPEAE.

Order CALICIALES.

Family CALICIACEAE.

MYCOCALICIUM PARIETINUM (Acharius, 1816).

Calicium parietinum Ach., Kgl. Vetensk.-Akad. Nya. Handl. 1816. p. 260, pl. 8, f. 1 a-b.

Mycocalicium parietinum (Ach.), Wainio, Etud. Lich. Bres., II., 1890, p. 182.

On dead wood at Reevesby Island.

Order LECANORALES.

Family PERTUSARIACEAE.

PERTUSARIA NOLENS Nylander, 1864.

Pertusaria nolens Nyl., Flora XLVII., 1864, p. 489.

On granitic rocks at Winceby, Langdon, Kirkby, Reevesby, Hareby, Marram, and Stickney Islands.

Family PARMELIACEAE.

PARMELIA LIMBATA (Laurer, 1833).

Parmelia limbata (Laur.) Shirley, Lichen Flora of Queensland, 1890, p. 46.

On granitic rocks and dead wood at Langdon, Reevesby, and Stickney Islands.

Family USNEACEAE.

Ramalina fraxinea (Linn., 1753).

Lichen fraxineus Linn. Species Plantarum, 1753, pp. 1146, 1147.

Ramalina fraxinea (Linn.), Ach., Lichenographia Universalis, 1810, p. 122, pl. 13, f. 5-11.

On *Lycium australe* at Reevesby Island.

Family TELOSCHISTACEAE.

Teloschistes villosus (Acharius, 1803).

Parmelia villosa Ach., Meth. Lich., 1803, p. 254.

Teloschistes villosus (Ach.), Norman, Nyt. Mag. Naturv., VII., 1852, p. 229.

On *Lycium australe* at Reevesby Island.

Teloschistes polycarpus (Ehrhart, 1798).

Lichen polycarpus Ehrh., in Ach. Lich. Suec., 1798, p. 135.

Teloschistes polycarpus (Ehrh.), Tuckerman, Syn. N. A. Lich., I., 1882, p. 50.

On granitic rocks and wood at Winceby, Langdon, Kirkby, Reevesby, Hareby, Marram, Little English, and Stickney Islands.

4. *Mollusca, Part 2; General.*

By BERNARD C. COTTON, South Australian Museum.

During December 1936, by invitation of the McCoy Society, the author visited the Banks Group, Spencer Gulf, and collected Mollusca. Part I. of this paper (Proc. Roy. Soc. Vic. I. (n.s.) pt. II. 1938) describes the spermatophore of *Rossia australis* Berry from specimens taken at Reevesby Island; the present paper, Part II., gives a list of species obtained, erects one new genus, one new subgenus, and describes eight new species.

Localities are indicated as follows:—Loc. 1, Reevesby Island, west beach; Loc. 2, Reevesby Island, north beach; Loc. 3, Reevesby Island, east beach; Loc. 4, Reevesby Island, south beach; Loc. 5, Lusby Island; Loc. 6, English Island; Loc. 7, Winceby Island.

Class PELECYPODA.

Family SOLEMYIDAE.

Solemya australis Lamarck, 1818.

Solemya australis Lamk., Anim. S. Vert., V., 1818, p. 489.

Loc. 1; two specimens.

Family ARCIDAE.

Barbatia pistachia (Lamarck, 1819).

Arca pistachia Lamk., Anim. S. Vert., VI., 1819, p. 41.
Barbatia pistachia (Lamk.), Cotton, Rec. S. Aust. Mus., IV., 2, 1930, p. 228

Loc. 1; numerous.

Barbatia laminata (Angas, 1865).

Arca laminata Angas, P.Z.S., 1865, p. 655.
Barbatia laminata (Angas), Cotton, Rec. S. Aust. Mus., IV., 2, 1930, p. 228.

Loc. 1; one specimen dredged alive in three fathoms.

Family LIMOPSIDAE.

Limopsis forteradiatus Cotton, 1930.

Limopsis tenisoni forteradiatus Cotton, Rec. S. Aust. Mus., IV., 2, 1930, p. 231.

Loc. 1, 2; two dead specimens, probably subfossil. Fairly common on South Australian raised beaches; less common on ordinary beaches but abundant at 10 fathoms.

Family GLYCYMERIDAE.

GLYCYMERIS RADIANS (Lamarck, 1819).

Pectunculus radians Lamk., Anim. S. Vert., VI., 1819, p. 54.

Loc. 1; twelve specimens.

Family VULSELLIDAE.

MALLEUS MERIDIANUS Cotton, 1930.

Malleus meridianus Cotton, Rec. S. Aust. Mus., IV., 2, 1930, p. 232.

Loc. 1, 2, 3, 4; numerous.

Family PTERIIDAE.

ELECTROMA GEORGIANA (Quoy & Gaimard, 1835).

Avicula georgiana Q and G., Voy. de L'Astrol, III., 1835, p. 457, pl. 77, f. 10, 11.

Loc. 1, 2; numerous.

Family PINNIDAE.

PINNA DOLABRATA Lamarck, 1819.

Pinna dolabrata Lamk., Anim. S. Vert., VI., 1819, p. 133.

Loc. 1, 3; numerous at low tide mark, with chitons attached.

Family OSTREIDAE.

OSTREA SINUATA Lamarck, 1819.

Ostrea sinuata Lamk., Anim. S. Vert., VI., 1819, p. 208.

Loc. 1, 2, 3; odd dead specimens.

Family TRIGONIIDAE.

NEOTRIGONIA BEDNALLI (Verco, 1907).

Trigonia bednalli Verco, Tr. R. Soc. S. Aust., XXXI., 1907, p. 213, pl. 28, f. 1-3.

Loc. 1; two eroded valves.

Family PECTINIDAE.

NOTOVOLA ALBA (Tate, 1887).

Pecten fumatus albus Tate, Pr. R. Soc. Tasm., 1887, p. 113.

Loc. 1, 2.

EQUICHLAMYS BIFRONS (Lamarck, 1819).

Pecten bifrons Lamk., Anim. S. Vert., VI., 1819, p. 164.

Loc. 1, 2, 6.

Scaeochlamys aktinos (Petterd, 1885).

Chlamys aktinos, Pett., Pr. Roy. Soc. Tasm., 1885, p. 320.

Loc. 1; one specimen.

Mimachlamys asperrimus (Lamarck, 1819).

Pecten asperrimus Lamk., Anim. S. Vert., VI., 1819, p. 174.

Loc. 1, 2, 3, 4, 5, 6.

Family SPONDYLIDAE.

Spondylus tenellus Reeve, 1856.

Spondylus tenellus Reeve, Conch. Icon., IX., 1856, pl. 18, f. 67.

Loc. 1, 2, 3; numerous, up to 75 mm. in diameter.

Family LIMIDAE.

Australima gemina Iredale, 1929.

Australima nimbifer gemina Ird., Rec. Aust. Mus., XVII., 4, 1929, p. 165.

Loc. 1; two specimens.

Mantellum orientale (Adams & Reeve, 1850).

Lima orientalis A. & R., Zool. Samarang, 1850, p. 75, pl. 11, f. 33.

Loc. 1.

Limatula strangei (Sowerby, 1872).

Lima strangei Sow., Conch. Icon., XVIII., 1872, pl. III., f. 15.

Loc. 1; one specimen.

Family ANOMIIDAE.

Monia ione (Gray, 1850).

Placuanomia ione Gray, P.Z.S., 1850, p. 123.

Loc. 1, 3.

Family MYTILIDAE.

Modiolus areolatus Gould, 1850.

Modiolus areolatus Gould, Pr. Boston Soc. Nat. Hist., III., 1850, p. 343.

Loc. 1, 2, 3.

Brachyodontes erosus (Lamarck, 1819).

Mytilus erosus Lamk., Anim. S. Vert., VI., 1819, p. 120.

Loc. 1, 2, 3, 4; a bed of these mussels is situated off the S.W. coast of Reevesby Island; depth one fathom.

Brachyodontes hirsutus (Lamarck, 1819).

Mytilus hirsutus Lamk., Anim. S. Vert., VI., 1819, p. 120.

Loc. 1, 2, 3, 6.

Musculus nanus (Dunker, 1856).

Lanistina nanus Dunk., P.Z.S., 1856, p. 365.

Loc. 1; two examples.

Family CLEIDOTHAERIDAE.

Cleidothaerus albidus (Lamarck, 1819).

Chama albida Lamk., Anim. S. Vert., VI., 1819, p. 96.

Loc. 1, 3.

Family CLAVAGELLIDAE.

Clavagella multangularis (Tate, 1886).

Aspergillum multangularis Tate, Pr. R. Soc. S. Aust., 1886, p. 64.

Loc. 1; four examples.

Family CRASSATELLIDAE.

Eucrassatella verconis Iredale, 1936.

Eucrassatella kingicola verconis Ird., Rec. Aust. Mus., Vol. XIX., 5, 1936, p. 271.

Loc. 1, 2, 3, 4.

Family CARDITIDAE.

Cardita crassicostata Lamarck, 1819.

Cardita crassicostata Lamk., Anim. S. Vert. VI., 1819, p. 24.

Loc. 1; rather common, large.

Family CHAMIDAE.

Chama ruderalis Lamarck, 1819.

Chama ruderalis Lamk., Anim. S. Vert., VI., p. 96, 1819.

Loc. 1; two specimens.

Family LEPTONIDAE.

Ephippodonta macdougalli Tate, 1888.

Ephippodonta macdougalli Tate, Tr. R. Soc. S. Aust., XI., 1888, p. 64, pl. XI., f. 5*a-b*.

Loc. 3; under large stones on reef at low tide; one alive. Not previously recorded from Spencer Gulf. A series from Port Lincoln show obscure secondary concentric sculpture which bridges the radials. One specimen is bright pink.

EPHIPPODONTA LUNATA (Tate, 1886).

Scintilla (?) *lunata* Tate, Tr. R. Soc. S. Aust., IX., 1886, p. 69, pl. IV., f. 8.

Loc. 3; under large stones on reef at low tide. The granose sculpture separates from the shell very easily, leaving a smooth surface. Some examples differ from the typical *lunata* in being consistently smooth and more solid, and in having a smaller, sharper umbo and well defined brown radial flames. One specimen is bright pink.

Family CARDIIDAE.

CARDIUM RACKETTI Donovan, 1826.

Cardium racketti Don., Nat. Repositary, IV., 1826, p. 125.

Loc. 1, 4; specimens from Loc. 1 measure up to 46 mm. in height.

CARDIUM ERUGATUM Tate, 1888.

Cardium erugatum Tate, Tr. R. Soc. S. Aust., XI., 1888, p. 62, pl. XI., f. 6.

Loc. 1, 4; one specimen from each locality. Hitherto taken only from Southern York Peninsula.

Family VENERIDAE.

CALLANAITIS DISJECTA (Perry, 1811).

Venus disjecta Perry, Conchology, pl. 58, f. 3, 1811.

Loc. 1; three odd valves.

TAWERA GALLINULA (Lamarck, 1818).

Venus gallinula Lamk., Anim. S. Vert., V., 1818, p. 592.

Loc. 1, 3; numerous, large.

KATELYSIA SCALARINA (Lamarck, 1818).

Venus scalarina Lamk., Anim. S. Vert., V., 1818, p. 508.
Katelysia corrugata (Lamk.), Cotton, Rec. S. Aust. Mus., V., 1934, p. 173.

Loc. 2; numerous, small.

VENERUPIS GALACTITES (Lamarck, 1818).

Venus galactites Lamk., Anim. S. Vert., V., 1818, p. 599.

Loc. 1; apparently the dominant bivalve in this locality.

Family TELLINIDAE.

PSEUDARCOPAGIA VICTORIAE Gatliff & Gabriel, 1914.

Pseudarcopagia victoriae G. and G., Vict. Nat. XXXI., 5, 1914, p. 83.

Loc. 1; one specimen.

Family PSAMMOBIIDAE.

PSAMMOBIA LIVIDA Lamarck, 1818.

Psammobia livida Lamk., Anim. S. Vert., V., 1818, p. 515.

Loc. 1; four specimens.

SOLETELLINA BIRADIATA (Wood, 1815).

Solen biradiata Wood, General Conch., 1815, p. 135, pl. 33, f. 1.

Loc. 1, 2; at Loc. 2, on sand flats and about 16 inches below surface, alive.

Family MACTRIDAE.

MACTRA PURA Deshayes, 1853.

Mactra pura Desh., P.Z.S., 1853, p. 15.

Mactra (Telemactra) abbreviata Lamk., Cotton, Rec. S. Aust. Mus., V., 1934, p. 176.

Loc. 1; numerous, large.

MACTRA AUSTRALIS Lamarck, 1818.

Mactra australis Lamk., Anim. S. Vert., V., 1818, p. 475.

Loc. 1; four specimens.

ANAPELLA PINGUIS (Crosse & Fischer, 1864).

Mactra pinguis, C. and F., J. de Conch., XII., 1864, p. 349.

Anapella cycladea Lamk., Cotton, Rec. S. Aust. Mus., V., 1934, p. 176.

Loc. 1; one specimen.

LUTRARIA RHYNCHAENA Jonas, 1844.

Lutraria rhynchaena Jonas, Zeit. f. Malak., I., 1884, p. 34.

Loc. 1, 2, 4.

Family AMPHIDESMATIDAE.

AMPHIDESMA CUNEATA (Lamarck, 1818).

Crassatella cuneata Lamk., Anim. S. Vert., V., 1818, p. 843.

Class CEPHALOPODA.

Family SPIRULIDAE.

SPIRULA SPIRULA (Linne, 1758).

Nautilus spirula Linne, Syst. Nat., ed. X., 1758, p. 710.

Loc. 1; three specimens.

Family SEPIIDAE.

MESEMBRISEPIA CHIROTREMA (Berry, 1918).

Sepia chirotrema Berry, "Endeavour" Biol. Res., IV., 1918, p. 268, pl. LXXIV., f. 3-9, pl. LXXV.-LXXVII.

Loc. 1; two fragments.

MESEMBRISEPIA NOVAEHOLLANDIAE (Hoyle, 1909).

Sepia novae, hollandiae Hoyle, Pr. R. Phys. Soc. Edin. XVII., 1909, p. 266.

Loc. 1, 2, 3, 4; numerous.

ARCTOSEPIA BRAGGI (Verco, 1907).

Sepia braggi Verco, Tr. R. Soc. S. Aust., XXI., 1907, p. 213, pl. XXVII., f. 6 a-d.

Loc. 1; four specimens. First record for Spencer Gulf.

AMPLISEPIA APAMA (Gray, 1849).

Sepia apama Gray, Cat. Moll. Brit. Mus. (Cephalopoda), 1849, p. 103.

Loc. 1, 2, 3, 4; fairly numerous.

Family ARGONAUTIDAE.

ARGONAUTA NODOSA Solander, 1786.

Argonauta nodosa Solander, Portland Cat., 1786, p. 76.

Loc. 2.

Family SEPIOLIDAE.

ROSSIA AUSTRALIS Berry, 1918.

Rossia australis Berry, "Endeavour" Biol. Res., IV., 1918, p. 253, pl. XIX., f. 3, 4, pl. LXX.

Loc. 1; two juvenile females and one male taken at a depth of 4 feet over a mussel (*B. erosus*) bed. Spermataphore described in previous part of this report.

Family OCTOPODIDAE.

OCTOPUS AUSTRALIS Hoyle, 1885.

Octopus australis Hoyle, Ann. Mag. Nat. Hist. (5), V., 1885, p. 224.

Loc. 1; four females netted in shallow water. The central area of the dorsal surface is edged with white and has a narrow, light brown strip on either side; specimens from Gulf St. Vincent have a uniformly brown dorsal surface. Ventral surface yellowish white; arms light brown on outer, yellowish white on inner surface; body and outer base of arms fairly granular.

Family LOLIGINIDAE.

SEPIOTEUTHIS AUSTRALIS Quoy & Gaimard, 1824.

Sepioteuthis australis Q. and G., Voy. de L'Astrolabe, Zool. II., 1832, p. 77, pl. IV., f. 1.

Loc. 1, 2, 3, 4, 5, 6, 7; plentiful.

Class LORICATA.

Family ISCHNOCHITONIDAE.

Ischnochiton lineolatus (Blainville, 1825).

Chiton lineolatus Bl., Dict. Sci. Nat., XXXVI., 1825, p. 541.

Loc. 1, 3; numerous specimens under weed-covered rocks at extreme low tide.

Ischnochiton variegatus (Adams & Angas, 1864).

Lepidopleurus variegatus A. and A., P.Z.S., 1864, p. 192.

Loc. 1, 3; numerous on rocks at low tide, but at a higher level than *I. lineolatus*.

Ischnochiton contractus (Reeve, 1847).

Chiton contractus Reeve, Conch. Icon., IV., 1847, pl. XV., f. 78.
Ischnochiton decussatus Pilsbry, Nautilus VIII., 1895, p. 129.

Loc. 1, 7; on rocks adjacent to Posidonia beds.

Ischnochiton cariosus (Dall, 1878).

Heterozona cariosa Dall, Proc. U.S. Nat. Mus., 1878, p. 331.
Anisoradsia mawlei saundersi Ashby, Tr. R. Soc. S. Aust., XLII., 1918, p. 82.

Loc. 1, 3.

Ischnochiton virgatus (Reeve, 1847).

Chiton virgatus Reeve, Conch. Icon., IV., 1847, pl. XXVIII., f. 192.

Loc. 3; in shallow pools.

Family PLAXIPHORIDAE.

Poneroplax costata (Blainville, 1825).

Chiton costatus Bl., Dict. Sci. (Levrault), XXXVI., 1825, p. 548.

Loc. 3; one taken at high tide mark.

Family CHITONIDAE.

Anthochiton exoptandus (Bednall, 1897).

Chiton exoptandus Bedn., Pr. Mal. Soc., II., 1897, p. 152, text f. and pl. XII., f. 7.

One juvenile attached to *Pinna dolabrata* Lk., dredged in four fathoms off N.W. of Reevesby Island.

Family CRYPTOPLACIDAE.

Cryptoplax striata (Lamarck, 1819).

Chitonellus striatus Lamk., Anim. S. Vert., VI., 1819, p. 317.

Loc. 1; dredged in shallow water.

Class GASTROPODA.

Family HALIOTIDAE.

HALIOTIS (NOTOHALIOTIS) IMPROBULUM Iredale, 1924.

Haliotis naevosum improbulum Iredale. Proc. Linn. Soc. N.S.W. XLIX., pt. 3, p. 222, 1924.

Loc. 1, 2, 4; common.

HALIOTIS (NEOHALIOTIS) EMMAE (Gray, 1846).

Haliotis emmae Gray, Reeve Conch. Icon., III., 1846, pl. 10, f. 29.

Loc. 1, 2. 4.

HALIOTIS (NEOHALIOTIS) SCALARIS (Leach, 1814).

Padollus scalaris Leach, Zool. Miscell., I., 1814, p. 66, pl. 28.

Loc. 1, 2; two specimens. Closely allied to *N. emmae*.

HALIOTIS (EXOHALIOTIS) CYCLOBATES (Peron, 1816).

Haliotis cyclobates Peron, Voy. Terr. Aust., II., 1816, p. 8.

Loc. 1, 2, 3, 4.

Family FISSURELLIDAE.

SCUTUS ANATINUS (Donovan, 1820).

Patella anatinus Don., in Ree's Encyclop. Conch., 1820, pl. XVI.

Loc. 1, 2; large specimens on reefs at extremely low tide.

TUGALI CICATRICOSUS (Adams, 1851).

Tugalia cicatricosa Adams, Thes. Conch., III., 1863, p. 222, pl. 219, f. 14.

Loc. 2; one live specimen.

Family PATELLIDAE.

CELLANA RUBRAURANTIACA (Blainville, 1825).

Patella rubaurantiaca Bl., Dict. Sci. Nat. (Levrault), XXXVIII., 1825, p. 110.

Helcioniscus limbatus Philippi, Abbild. und Besch. Conch., III., p. 71. pl. III., f. 2, 1849.

Loc. 2; on rocks, large, typical.

CELLANA TRAMOSERICA (Sowerby, 1825).

Patella tramoserica Sow., Cat. Shells Tankerville, 1825, p. 30.

Patella variegata Bl., Dict. Sci. Nat. (Levrault), XXXVIII., 1825, p. 101.

Loc. 1, 2; on rocks, common.

Family LOTTIIDAE.

PATELLOIDA ALTICOSTATA (Angas, 1865).

Patella alticostata Angas, P.Z.S., 1865, p. 56, pl. II., f. 11.

Loc. 2; fairly common.

Family TROCHIDAE.

Clanculus (Isoclanculus) weedingi sp. nov.

(Pl. vii., fig. 2.)

Depressedly conoid, thick, falsely umbilicate, dark reddish blue, last whorl with four equal granulose lirae on the upper part of the whorl and five on the base; whorls five, first eroded whitish, the last rapidly descending towards the aperture which is somewhat contracted, outer lip denticulate within, a larger denticle above and below, the lower one separated by a notch from the basal tubercle of the columella.

Holotype; height 9 mm., diam. 11.5 mm.; Reevesby Island (Reg. No. D.13304, S.A. Museum).

Well known to South Australian collectors for many years. The Rev. Weeding took good specimens at Port Hughes.

In size, shape and regularity of the sculpture it is quite distinct from its nearest ally *C.* (*I.*) *dunkeri,* and differs from *C.* (*I.*) *yatesi* in the rounded whorls and spaced granulose spiral lirae. At a casual glance this species has a marked resemblance to *Micrastraea rutidoloma* in size, shape, and sculpture, but it is quite distinct in the clanculoid aperture features.

Loc. 1; two specimens in shell sand.

Austrocochlea torri Cotton and Godfrey, 1934.

Austrocochlea torri C. and G., S. Aust. Nat., Vol. XVI. (1), 1934, pl. 1.

Loc. 1, 2, 3, 4, 5, 6, 7; on rocks.

Austrocochlea concamerata (Wood, 1828).

Trochus concamerata Wood, Index Test., suppl. 1828, pl. 6, f. 35.
Trochus striolatus Quoy and Gaimard, Zool. de L'Astrolabe, III., 1834, p. 253, pl. 63, f. 18, 22.

Loc. 1, 2, 3, 4, 5, 6, 7; on rocks at low time.

Family STOMATELLIDAE.

Stomatella imbricata Lamarck, 1816.

Stomatella imbricata Lamk., Encycl. Meth., 1816, p. 10, pl. 450, f. 2.

Loc. 2, 4, 5; on rocks.

Herpetopoma annectans (Tate, 1893).

Euchelus annectans Tate, Tr. R. Soc. S. Aust., XVII., 1893, p. 196.

Loc. 1; in shell sand.

Family TURBINIDAE.

Turbo (Subninella) undulatus (Martyn, 1784).

Limax undulatus Martyn, Univ. Conch., 1784, f. 29.

Loc. 2; one fragment.

TURBO (NINELLA) TORQUATUS (Gmelin, 1784).

Turbo torquatus, Gmel., Syst. Nat. Ed., p. 3597, No. 106.
Limax stamineus Martyn, Univ. Conch., 1784, p. 71.

Loc. 2, 6; broken shells on flat rocks, evidently dropped and broken by the Pacific Gull.

TURBO (EUNINELLA) GRUNERI Philippi, 1846.

Turbo gruneri Phil., Conch. Cab., 1846, p. 52, pl. 12, f. 7. 8.

Loc. 1; four specimens.

Not previously assigned to a subgenus; the new subgenus *Euninella*, here introduced for *T. gruneri*, differs from other subgenera of *Turbo* as follows. Operculum paucispiral with smooth outer surface, resembling those of *T. (Subninella) undulatus* and *T. (Dinassovica) jourdani*, with curved, ear-like processes like those of *T. (Ninella) torquatus*, but much less valid; shell imperforate like that of *jourdani*, which also has a tendency to spiral ribbing when juvenile. The new subgenus seems to have affinities with the subgenus *Dinassovica*, but is distinguished by the differences noted above.

TURBO (DINASSOVICA) JOURDANI Kiener, 1839.

Turbo jourdani Kiener, Rec. Zool. Soc. Cuvier, 1839, p. 324.
Dinassovica verconis Iredale, Pr. Zool. Soc. N.S.W., VIII., pl. 4, 1937, p. 247.

Examination of a series of Western Australian and South Australian specimens convinces me that *verconis* Iredale, is merely a variant of *jourdani*.

Loc. 2; a complete shell 170 mm. high, 150 mm. wide.

BALLASTRAEA SQUAMIFERA (Koch, 1844).

Turbo squamiferus Koch, Philippi, Abbild., I., 1844, p. 138, pl. 4, f. 9.

Loc. 1, 2; numerous.

MICRASTRAEA gen. nov.

Shell small, depressed, solid, imperforate; whorls five, plicate at the sutures, the folds fainter and usually bifurcating near the periphery; spiral lirae cut the folds into indistinct granules and on the base form coarse granules; aperture small, oblique; columellar callus spread over the umbilical region, and excavate, the outer rim forming a tubercle; operculum spirally ribbed, having a granular surface. Genotype, *Trochus aureus* Jonas, 1844.

The genotype has been recorded from numerous places in the Flindersian Region, and has been located in various genera. Pilsbry places it in *Cyclocantha* Swainson, remarking, "A very attractive little species, quite distinct from its nearest allies." Swainson records it as *Carinidea granulata*, and Tenison-Woods as *Carinidea tasmanica* in 1877 and *Carinidea ornata* in 1876. *Carinidea* does not appear to have any relationship to the present species and Pilsbry has remarked on its distinctions from other species of *Cyclocantha*. The above genus is therefore introduced.

MICRASTRAEA AUREA (Jonas, 1844).

Trochus aureus Jonas, Zeits, Malak., 1844, p. 168.

Loc. 1, 2, 3.

MICRASTRAEA RUTIDOLOMA (Tate, 1893).

Turbo (*Astralium*) *rutidoloma* Tate, Tr. R. Soc. S. Aust., 1893, p. 192.

Loc. 1.

Family EUTROPHIDAE.

PHASIANELLA AUSTRALIS (Gmelin, 1788).

Buccinum australe Gmel., Syst. Nat., 1788, p. 3490, No. 173.

Loc. 1; common.

PHASIANELLA, VENTRICOSA Swainson, 1822.

Phasianella ventricosa Swainson, Cat. Coll. Shells Bligh, 1822, P. 15.

Loc. 1; common.

Family NERITIDAE.

NERITA (MELANERITA) MELANOTRAGUS Smith, 1884.

Nerita melanotragus Smith, Zool. Alert., 1884, p. 69.

Loc. 1, 2, 3, 4, 5, 6, 7; common on reefs.

Family LITTORINIDAE.

MELARHAPHE UNIFASCIATA (Gray, 1826).

Littorina unifasciata Gray, King's Survey Aust., Append., II, 1826, p. 483.

Melarhaphe mauritiana Reeve, Conch. Icon., X., 1857, pl. 17, f. 100.

Loc. 3; common on gneissic rocks.

Family HIPPONICIDAE.

SABIA (SABIA) CONICA (Schumacher, 1817).

Amalthea conica Schum., Essai. 1817, p. 81, pl. 21, f. 4.

Loc. 1, 2, 3, 4.

SABIA (ANTISABIA) FOLIACEA (Quoy and Gaimard, 1835).

Hipponix foliacea Q. and G., Zool. de l'Astrolabe, III., 1835, p. 434, pl. 72, f. 41-45.

Loc. 1, 3, 4; in shell sand.

SABIA (ANTISABIA) ERMA sp. nov.

(Pl. vii., fig. 8.)

Shell conical, thick concentrically distantly frilled; frills numbering sixteen, smooth except for microscopic, obsolete, interrupted short radials; protoconch smooth, conical, set in the middle of the first frill pointing laterally and overhanging the base.

Holotype, height 9 mm., width 19 mm.; Reevsby Island (Reg. No. D.13306, S.A. Musuem).

This species has been taken at various places between Yorke Peninsula, S. Aust., and Rottnest, W.A. In South Australia it has been confused with *foliacea* and in Western Australia with *antiquata* Linne, a South American species.

Family CAPULIDAE.

CAPULUS BANKSI sp. nov.

(Pl. vii., fig. 7.)

Shell large, conical, and thin; sculpture of numerous, fine, regular concentrics formed by the edges of very weak concentric frills which are not prominent; the frills are sculptured by microscopic numerous, packed short radials; protoconch spiral, small, overhanging the base of the shell; base regular, ovate; a fine periostracum covers the shell and bristles from it project from the edges of the concentric lamellae.

Holotype, height 11 mm., width 21 mm.; Reevesby Island, shallow water. (Reg. No. D.13307, S.A. Museum.)

One specimen only was taken but there is another in the S. Aust. Museum taken by Dr. Torr at Neptune Island.

Family CERITHIIDAE.

BITTIUM (BATILLARIELLA) ESTUARINUM Tate, 1893.

Bittium estuarinum Tate, Tr. R. Soc. S. Aust., XVII., 1893, p. 190, pl. 1, f. 12.

Loc. 1; dead specimens in sands at 2 feet, but no living examples. The South Australian Museum has numerous specimens from Yalata Station, 30 miles north of Fowlers Bay, taken at 1 foot beneath land surface by Mrs. D. Bates.

BITTIUM (EUBITTIUM) LAWLEYANUM Crosse, 1863.

Bittium lawleyanum Crosse, Journ. de Conch., XI., 1863, p. 87., pl. 1, fig. 4.

Loc. 1; living on weeds in shallow water.

Family SCALIDAE.

Iredale has elevated Boury's subgenera of this family to generic rank and has added a few extra genera; some may prove, on further study, to be synonyms of Boury's earlier subgenera For this reason all are here treated as subgenera.

Scala (Laeviscala) godfreyi sp. nov.

(Pl. vii., fig. 3.)

Shell elongate, whorls ten, thin, varices thin, well spaced, rolled back, continuous, numbering seven on the body whorl; interstices very finely irregularly, obsoletely spirally striate, and more finely longitudinally striate; mouth oval, lips complete; basal rib narrow.

Holotype, length 23 mm., breadth 8 mm.; Reevesby Island (Reg. No. D.13305, S.A. Museum). This holotype is an average sized specimen.

The species has been misnamed *aculeata* Sowerby, from Hong Kong. The nearest described species is *tacita* Iredale, from Sydney Harbour. The present species differs in having much less regular and less marked interstitial sculpture, resembling rather that of *minora* Iredale.

Scala (Plastiscala) verconis sp. nov.

(Pl. vii., fig. 5.)

Shell small, weakly sculptured, with low fairly sharp longitudinal ribs crossed by concentric lirae; adult whorls seven, protoconch of one and a half, smooth, mamillate whorls; imperforate; aperture subrotund, about twenty-four longitudinal ribs on the body whorl are crossed by numerous spiral lirae, basal cord very indistinct.

Holotype, length 8 mm., breadth 2.3 mm.; Reevesby Island, in shell sand (Reg. No. D.13300, S.A. Museum).

This species is related to the Peronian *morchi* Angas but differs in the greater validity of the sculpture and general appearance. In the Peronian Region we find *morchi* and the deeper water subspecies *bentha* and *profundior*. In the Flindersian Region we have *verconis* and the deeper water *invalida*, but the latter is so distinct in sculpture that it is retained as a full species.

Scala (Pomiscala) reevesbyi sp. nov.

(Pl. vii., fig. 1.)

Shell medium size, apical angle wide; imperforate; whorls six, sculptured with longitudinal lamellae continuous from whorl to whorl; interspaces smooth, faint basal cord present; protoconch of one and a half, smooth, depressed whorls; twelve longitudinal lamellae on the last whorl.

Holotype, length 26 mm., breadth 12 mm.; Reevesby Island (Reg. No. D.13299, S.A. Museum).

One specimen only was taken. This species can be distinguished on sight from the Peronian *perplicata* Iredale by the much more slender form and less developed basal rib.

Family CYMATIIDAE.

Negyrina subdistorta (Lamarck 1822).

Triton subdistortum Lamk., Anim. S. Vert., VII., 1822, p. 186.

Loc. 1; one typical, the others are a more slender finer sculptured rounded-whorl form commonly found in South Australia. A series proves that they are variants of one species.

Family CASSIDIDAE.

Hypocassis fimbriata (Quoy and Gaimard, 1833).

Cassis fimbriata Q. and G., Zool de l'Astrolabe II., 1833, p. 569, pl. 43, f. 78.

Loc. 1, 3; one small and two large specimens, the former resembling the subspecies, *decresensis* Hedley.

Family CYPRAEIDAE.

Zoila thersites (Gaskoin, 1848).

Cypraca thersites Gask., P.Z.S., 1848, p. 90.

Loc. 1; six specimens. Common, alive, off west coast of Reevesby Island, at about 2 fathoms.

Notocypraea verconis Cotton and Godfrey, 1932.

Notocypraca verconis C. and G., S. Aust. Nat., XIII., 1932, p. 41, pl. 1, f. 8.

Loc. 1, 2, 3, 4.

Austrocypraea reevei (Sowerby, 1832).

Cypraca reevei Sow., Conch. Illus., 1832, pl. 8, f. 52.

Loc. 1; one specimen.

Family VOLUTIDAE.

Amorena undulata (Lamarck, 1804).

Voluta undulata Lamk., Ann. Mag. Nat. Hist., V., 1804, p. 157, pl. 12, f. 1.

Loc. 1; numerous.

Ericusa fulgetrum (Sowerby, 1825).

Voluta fulgetrum Sow., Tank. Cat., 1825, pls. 4, 5.

Loc. 1, 3, 4; one living specimen approaches the variety ***dictua*** Verco.

Lyria multicostata (Broderip, 1827).

Voluta multicostata Brod., Zool. Journ., III., 1827, p. 82, pl. 3, f. 2.

Loc. 1; numerous.

Family CONIDAE.

Floraconus anemone (Lamarck, 1810).

Conus anemone Lamk., Ann. du Mus., XV., 1810, p. 272.

Loc. 1, 2, 3, 4; common, varying from medium to long spires.

Parviconus rutilus (Menke, 1843).

Conus rutilus Menke, Moll. Nov. Holl., 1843, p. 27.

Loc. 1; three specimens.

Family BUCCINIDAE.

Cominella lineolata (Lamarck, 1822).

Buccinum lineolatum Lamk., Anim. S. Vert., VII., 1822, p. 267.

Loc. 1, 2, 3, 4, 5; numerous.

Family NASSARIIDAE.

Reticunassa paupera (Gould, 1850).

Nassa paupera Gould, Pr. Boston Nat. Hist. Soc., III., 1850, p. 155

Loc. 2; in shell sand; very variable.

Niotha pyrrhus (Menke, 1843).

Buccinum pyrrhum Menke, Moll, Nov. Holl., 1843, p. 21.

Alectrion victorianus Ird., Tr. N.Z. Inst., 1915, p. 467.

Loc. 2; numerous on tidal sand flats.

Parcanassa pauperata (Lamarch, 1822).

Buccinum pauperatum Lamk., Anim. S. Vert., VII., 1822, p. 278.

Loc. 2; numerous on tidal sand flats.

Nassarius particeps (Hedley, 1915).

Arcularia particeps Hedley, Pr. Linn. Soc. N.S.W., XXXIX., 1915, p. 738.

Loc. 1; two shells.

Family PYRENIDAE.

Zemitrella nux (Reeve, 1859).

Columbella nux Reeve, Conch. Icon., XI., pl. XXXV., f. 227, 1859.

Loc. 1; two specimens.

The specimens have been allotted to Reeve's species *nux*, type locality Port Adelaide, in prefence to Gaskoin's species *pulla*, described without type locality but allowed by previous authors in the South Australian list. The two specimens agree fairly well with Reeve's figure.

ZEMITRELLA ACUMINATA (Menke, 1843).

Buccinum acuminatum Menke, Moll. Nov. Holl., 1843, p. 20.

Loc. 1; numerous.

ZEMITRELLA PURPUREOCINCTA (Verco, 1910).

Pyrene menkeana purpureocincta Verco, Tr. R. Soc. S. Aust., XXXIV., 1910, p. 347.

Loc. 1; one specimen.

Family MURICIDAE.

PTERONOTUS TRIFORMIS (Reeve, 1845).

Murex triformis Reeve, Conch. Icon., III., 1845, pl. 13, f. 53.

Loc. 1, 2, 3.

Family THAIDIDAE.

NEOTHAIS TEXTILIOSA (Lamarck, 1822).

Purpura textiliosa Lamk., Anim. S. Vert., VII., 1822, p. 77.

Loc. 2, 3; six specimens; one large shell contained a hermit crab, *Paguristes frontalis* Milne Edwards.

Family LAOMIDAE.

PARALAOMA STABILIS (Iredale, 1937).

Helix arcuicola Tate, Pr. Linn. Soc. N.S.W., II., 1878, p. 291.

Paralaoma stabilis Ird., S. Aust. Nat., XVIII., 2, 1937, p. 20.

Reevesby Island; numerous examples taken by J. Clark and the author.

MISELAOMA REEVESBYI sp. nov.

(Pl. vii., fig. 4.)

Shell small, fragile, horn coloured, sinistral, very narrowly umbilicated, spire elevated, protoconch depressed; whorls including protoconch four and a half, flatly rounded; subangulate, sutures impressed; sculpture of axial fine striae on the adult whorls; protoconch microscopically interruptedly spirally lirate.

Holotype, height 1.4 mm., breadth 1.5 mm.; Reevesby Island (Reg. No. D.13296, S.A. Museum).

Three specimens in all have been picked out from the numerous small shells taken on the Island. At first this species was thought to be the immature tip of *Omegapilla australis*. The subangulate whorls, large size and different shape, distinguish this species from the Victorian *Laoma sinistra* Gabriel.

Family SUCCINEIDAE.

SUCCINEA (AUSTROSUCCINEA) AUSTRALIS (Ferussac, 1821).

Helix australis Ferussac, Tabl. Syst. Limacons, pt. 2, 1821, p. 31, pl. XI., fig. 11.

Reevesby Island; numerous.

Succinea (Arborcinea) arborea Angas, 1864.

Succinea arborea Angas, P.Z.S., 1864, p. 523.

Reevesby Island; under bark of *Myoporum insularae*.

Family VERTIGINIDAE.

Themapupa adelaidae (Angas, 1864).

Buliminus (Chondrula) adelaidae Angas, P.Z.S., 1863, p. 522.

Reevesby Island; three specimens.

Omegapilla australis (Angas, 1864).

Vertigo australis Angas, P.Z.S., 1863, p. 522.

Reevesby Island; numerous.

Australbinula margaretae (Cox, 1868).

Pupa margaretae Cox, Mon. Aust. Land Shells, 1868, p. 80, pl. XIV., f. 20*a*.

Reevesby Island; numerous.

Family CHAROPIDAE.

Discocharopa insularis sp. nov.

(Pl. vii., fig. 6.)

Shell small, thin, flattened, horn coloured; whorls three, sculptured with distant, radial ribs, the interstices filled with much finer accremental striae; protoconch large, smooth, of one and a half whorls; umbilicus wide, mouth simple.

Holotype, height 1 mm., breadth 2 mm.; Reevesby Island (Reg. No. D.13297, S.A. Museum).

Reevesby Island; four specimens. Readily separable from the Central Australian *planorbulina* Tate.

Explanation of Plate.

1. Scala (Pomiscala) reevesbyi sp. nov. × 2.
2. Clanculus (Isoclanculus) weedingi sp. nov. × 4
3. Scala (Laeviscala) goldfreyi sp. nov. × 2.
4. Miselaoma reevesbyi sp. nov. × 28.
5. Scala (Plastiscala) verconis sp. nov. × 3. 6.
6. Discocharopa insularis sp. nov. × 22.
7. Capulus banksi sp. nov. × 2.4.
8. Sabia (Antisabia) erma sp. nov. × 3.

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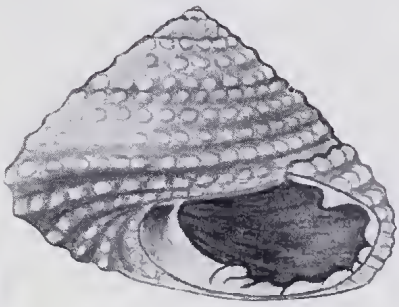

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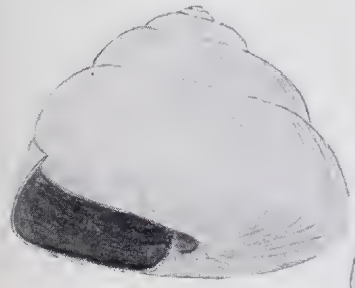

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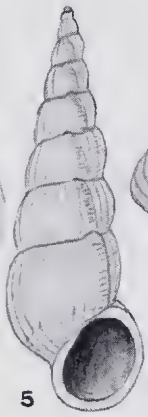

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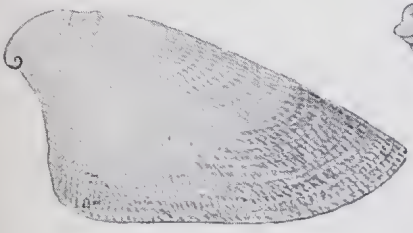

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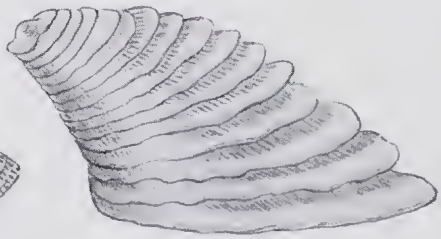

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5. *Pisces.*

By J. S. GUEST and D. B. ROBERTSON.

Methods adopted for procuring specimens were:—

(*a*) Rock pools were poisoned with chloride of lime or hand nets used.

(*b*) A 75 fathom seine net was used extensively at Home Bay, the only situation suitable for netting on Reevesby Island.

(*c*) Hand lines were used, mainly in water up to 6 fathoms.

(*d*) Dredging was carried out mainly off the west and south coasts of Reevesby Island.

Although the most detailed study was made at Reevesby Island and most of the species were obtained at or near that island, a less detailed survey of the rest of the group indicated that most of the Reevesby fish were common throughout.

As well as fish of economic importance such as Whiting (*Sillaginodes punctatus*), Sweep (*Scorpis georgianus*) and Schnapper (*Pagrosomus auratus*) which were extensively caught by local fishermen, many other excellent edible fish were obtained, such as Trevally (*Caranx georgianus*), Garfish (*Hyporhamphus intermedius*), and Flathead (*Platycephalus bassensis*). Poorer types of fish such as Australian Salmon, Parrot Fish, and Leather Jackets were present in enormous numbers, while the commonest inhabitants of rock pools were the Jumping Blenny and Zebra Fishes.

The nomenclature adopted in this report (except in the case of *Spheroides pleurogramma*) is that used by Waite in the Catalogue of the Fishes of South Australia (Rec. S.A. Mus., ii., 1921-24, pp. 1-208) and in "The Fishes of South Australia" (Brit. Sci. Guild Handbook, Adelaide, 1923). Only the most significant references to synonymy are given.

Sub-class ELASMOBRANCHII.

Order SELACHII.

Family HETERODONTIDAE.

HETERODONTUS PHILIPPI (Bloch and Schneider, 1801). (Port Jackson Shark.)

Squalus philippi Bl. and Schn., Syst. Ichth., 1801, p. 134.

Heterodontus philippi (Bl. and Schn.). Blainville, Bull. Soc. Phil., 1816, p. 121.

Several egg cases of this species were found on the beaches of Reevesby Island.

Order BATOIDEI.

Family RHINOBATIDAE.

TRIGONORRHINA FASCIATA (Müller and Henle, 1837). (Fiddler).

Trigonorrhina fasciata Müller and Henle, Mag. Nat. Hist., (2), ii., 1837, p. 90. and Plagiost, 1838, p. 124, pl. xlii.

Family MYLIOBATIDAE.

MYLIOBATIS TENUICAUDATUS (Hector, 1877). (Eagle Ray.)

Myliobatis tenuicaudatus Hector, T.N.Z. Inst., ix., 1877, p. 468.

Very commonly seen in shallow water.

Sub-class TELEOSTOMI.

Order ISOSPONDYLI.

Family CLUPEIDAE.

STOLEPHORUS ROBUSTUS (Ogilby, 1898). (Blue Sprat.)

Spratelloides robustus Ogilby, P.L.S. N.S.W., xxii., 1898, p. 64.

Stolephorus robustus (Ogilby), Waite, Mem. N.S.W. Nat. Club, ii., 1904, p. 12.

Family GONORHYNCHIDAE.

GONORHYNCHUS GREYI (Richardson, 1845). (Sand Fish.)

Rhynchana greyi Rich., Zool. Erebus and Terror, 1845, p. 44, pl. xxix., figs. i-vi and text fig.

Gonorhynchus greyi (Rich.), Gunther, Cat. Fish. Brit. Mus., vii., 1868, p. 373.

One specimen, 33 cm. in length, was taken.

Order NEMATOGNATHI.

Family PLOTOSIDAE.

CNIDOGLANIS MEGASTOMA (Richardson, 1845). (Estuary Catfish.)

Plotosus megastomus Rich., *loc. cit.*, 1845, p. 31, pl. xxi., figs. i-iii.

Cnidoglanis megastoma (Rich.), Gunther, Cat. Fish. Brit. Mus., v., 1864, p. 27.

Order SYMBRANCHII.

Family SYMBRANCHIDAE.

CHEILOBRANCHUS RUFUS (Macleay, 1881). (Shore Eel.)

Cheilobranchus rufus Macleay, P.L.S., N.S.W., vi., 1881, p. 266.

Found in numbers in almost every rock pool examined throughout the group.

Order SOLENICHTHYES.

Family SYNGNATHIDAE.

LISSOCAMPUS CAUDALIS (Waite and Hale, 1921). (Smooth Pipefish.)

Lissocampus caudalis Waite and Hale, Rec. S.A. Mus., i., 1921, p. 306, fig. xlvi.

Order SYNENTOGNATHI.

Family HEMIRHAMPHIDAE.

HYPORHAMPHUS INTERMEDIUS (Cantor, 1842). (Garfish.)

Hemirhamphus intermedius Cantor, A.M.N.H., ix., 1842, p. 485.
Hyporhamphus intermedius (Cant.), Waite, Rec. S.A. Mus., ii., 1921, p. 65, fig. 98.

Commonly netted in Home Bay.

Order PERCOMORPHI.

Sub-order PERCESOCES.

Family ATHERINIDAE.

ATHERINA MICROSTOMA (Gunther, 1861). (Large-scaled Atherine.)

Atherina microstoma Gunth., Cat. Fish. Brit. Mus., iii., 1861, p. 401.

Family MUGILIDAE.

AGONOSTOMUS FORSTERI (Bloch and Schneider, 1801). (Freshwater Mullet, Conmuri.)

Albula forsteri Bl. and Schn., *loc. cit.*, 1801, pp. xxxii and 120.
Agonostoma forsteri (Bl. and Schn.), Gunther, *loc. cit.*, 1861, p. 465.

Only juvenile specimens taken.

Family SPHYRAENIDAE.

SPHYRAENA NOVAE-HOLLANDIAE (Gunther, 1860). (Snook, Short-finned Pike.)

Sphyraena novae-hollandiae Gunth., Cat. Fish. Brit. Mus., ii., 1860, p. 335.

Netted at Home Bay.

Sub-order PERCOIDEA.

Division PERCIFORMES.

Family SILLAGINIDAE.

SILLAGINODES PUNCTATUS (Cuvier and Valenciennes, 1829). (Spotted Whiting.)

Sillago punctata Cuv. and Val., Hist. Nat. Poiss., iii., 1829A, p. 413.
Sillaginodes punctatus (Cuv. and Val.), Gill, Proc. Acad. Nat. Sci. Phil., 1861, p. 505.

Commonly caught on handlines in 3-4 fathoms.

Family CARANGIDAE.

CARANX GEORGIANUS (Cuvier and Valenciennes, 1833). (Trevally.)

Caranx georgianus Cuv. and Val., Hist. Nat. Poiss., ix., 1833, p. 85.

Caught in large numbers at Reevesby and Little English Islands.

SERIOLA GRANDIS (Castelnau, 1872). (Yellowtail.)

Seriola grandis Castelnau, P.Z.S. Vic., i., 1872, p. 115.

Family ARRIPIDIDAE.

ARRIPIS TRUTTA (Forster, 1801). (Australian Salmon.)

Sciaena trutta Forster, in Bloch and Schneider, *loc. cit.*, 1801, p. 542.

Arripis trutta (Forster), Gill, Mem. Nat. Acad. Sci., vi., 1893, p. 116.

Enormous shoals seen in shallow water throughout the group.

ARRIPIS GEORGIANUS (Cuvier and Valenciennes, 1831). (Tommy Rough, Wankaldi.)

Centropristes georgianus Cuv. and Val., Hist. Nat. Poiss., vii., 1831, p. 451.

Arripis georgianus (Cuv. and Val.), Jenyns, Voy. Beagle, 1842, p. 14.

Very common.

Family SCIAENIDAE.

SCIAENA ANTARCTICA (Castelnau, 1872). (Butterfish, Mulloway.)

Sciaena antarctica Castelnau, *loc. cit.*, 1872, p. 100.

Noted in clear water off Roxby Island.

Family MULLIDAE.

UPENEUS POROSUS (Cuvier and Valenciennes, 1829). (Red Mullet.)

Upeneus porosus Cuv. and Val., *loc. cit.*, 1829A, p. 455.

One specimen taken.

Family SPARIDAE.

PAGROSOMUS AURATUS (Forster, 1801). (Schnapper.)

Sciaena aurata Forster, in Bloch and Schneider, *loc. cit.*, 1801, p. 266.

Pagrosomus auratus (Forster), Gill, *loc. cit.*, 1893, pp. 97, 116, 123.

Common; schnapper grounds west of Roxby used by fishermen.

Family SCORPIDIDAE.

SCORPIS GEORGIANUS (Cuvier and Valenciennes, 1831). (Banded Sweep.)

Scorpis georgianus Cuv. and Val., Hist. Nat. Poiss, viii, 1831, p. 503, pl. ccxlv.

Caught in large numbers on hand lines.

Family GIRELLIDAE.

MELAMBAPHES ZEBRA (Richardson, 1846). (Zebra Fish.)

Crenidens zebra Rich., Zool. Ereb. Terr., 1846, p. 70.

Tephraeops zebra (Rich.), Gunther, Cat. Fish. Brit. Mus., i., 1859, p. 432.

Melambaphes zebra (Rich.), Waite, Fishes S. Aust., 1923, p. 137.

Very common in all rock pools examined.

Family ENOPLOSIDAE.

ENOPLOSUS ARMATUS (Shaw, 1790). (Old Wife.)

Chaetodon armatus Shaw, in White's Voy. N.S.W., 1790, p. 254, pl. xxxix., fig. i.

Enoplosus armatus (Shaw), Cuv. and Val., Hist. Nat. Poiss., ii., 1828, p. 133, pl. xx.

Division CIRRHITIFORMES.

Family CHEILODACTYLIDAE.

GONIISTIUS VIZONARIUS (Kent, 1887). (Magpie Perch.)

Cheilodactylus gibbosus Castelnau, *loc. cit.*, 1872, p. 75 (not Rich.).

Chilodactylus vizonarius Kent, P.R.S. Tas., 1887, p. xxx, 48.

Goniistius vizonarius (Kent), McCulloch, Endeavor Res., i., 1911, p. 64, pl. xi.

Division LABRIFORMES.

Family LABRIDAE.

Members of this family (Parrot Fishes) were extremely common on weedy and rocky bottoms.

PSEUDOLABRUS PSITTACULUS (Richardson, 1840). (Rosy Parrot Fish.)

Labrus psittaculus Rich., P.Z.S., 1840, p. 26 and Zool. Ereb. Terr., 1848, p. 129, pl. lvi., figs. vii.-x.

Pseudolabrus psittaculus (Rich.), McCulloch, *loc. cit.*, 1911, p. 77, fig. xix.

PSEUDOLABRUS FUCICOLA (Richardson, 1840). (Purple Parrot Fish.)

Labrus fucicola Rich., *loc. cit.*, 1840, p. 26 and *loc. cit.*, 1848, p. 127, pl. liv., figs. i., ii.

Pseudolabrus fucicola (Rich.), Gill, *loc. cit.*, 1893, p. 116.

PSEUDOLABRUS CELIDOTUS (Forster, 1801). (Spotty.)

Labrus celidotus Forster, in Bloch and Schneider, *loc. cit.*, 1801, p. 265.

Pseudolabrus celidotus (Forster), Gill, *loc. cit.*, 1893, pp. 98, 117.

PSEUDOLABRUS TETRICUS (Richardson, 1840). (Blue-throated Parrot Fish.)

Labrus tetricus Rich., *loc. cit.*, 1840, p. 25 and *loc. cit.*, 1848, p. 126, pl. lv., figs. i.-iv.

Pseudolabrus tetricus (Rich.), Waite, *loc. cit.*, 1921, p. 130

PSEUDOLABRUS PUNCTULATUS (Gunther, 1862). (Blue-spotted Parrot Fish.)

Labrichthys punctulata Gunther, Cat. Fish. Brit. Mus., iv., 1862, p. 118.
Pseudolabrus punctulatus (Gunth.), Gill, P.U.S. Nat. Mus., xiv., 1892, p. 401.

PICTILABRUS LATICLAVIUS (Richardson, 1839). (Senator Fish.)

Labrus laticlavius Rich., P.Z.S., 1839, p. 99 and *loc. cit.*, 1848, p. 128, pl. lvi., figs. iii.-vi.
Pictilabrus laticlavius (Rich.), Gill, *loc. cit.*, 1892, p. 403.

Family ODACIDAE.

ODAX sp.

Sub-order GOBIOIDEA.

Family GOBIIDAE.

GOBIUS HINSBYI (McCulloch and Ogilby, 1919). (Girded Goby.)

Gobius pictus Castelnau, *loc. cit.*, 1872, p. 124 (not Malm.).
Gobius hinsbyi Johnston, P.R.S. Tas., 1903, p. x. (name only); *idem*, McCulloch and Ogilby, Rec. Aust. Mus., xii., 1919, p. 215, pl. xxxiii., fig. i

Dredged between Reevesby and Partney Islands.

GOBIUS LATERALIS (Macleay, 1881). (Spotted Goby.)

Gobius lateralis Macleay, P.L.S. N.S.W., v., 1881, p. 602.

Sub-order BLENNIOIDEA.

Family BLENNIIDAE.

BLENNIUS TASMANIANUS (Richardson, 1839). (Blenny.)

Blennius tasmanianus Rich., *loc. cit.*, 1839, p. 99; *idem*, T.Z.S., ii., 1849, p. 129.

Frequently found in rock pools.

OPHICLINUS GRACILIS (Waite, 1906). (Black-backed Snake Blenny.)

Ophiclinus gracilis Waite, Rec. Aust. Mus., vi., 1906, p. 207, pl. xxxvi., fig. vi.

One specimen from Kirkby Island.

CRISTICEPS AUSTRALIS (Cuvier and Valenciennes, 1836). (Weed Fish.)

Cristiceps australis Cuv. and Val., Hist. Nat. Poiss., xi., 1836, p. 402, pl. cccxxxvi.

CLINUS PERSPICILLATUS (Cuvier and Valenciennes, 1836). (Eyed Blenny.)

Clinus perspicillatus Cuv. and Val., *loc. cit.*, 1836, p. 372.

LEPIDOBLENNIUS MARMORATUS (Macleay, 1878). (Jumping Blenny.)

Tripterygium marmoratum Macleay, P.L.S. N.S.W., iii., 1878, p. 34, pl. iii., fig. ii.

Lepidoblennius marmoratus (Macleay), McCulloch and McNeill, Rec. Aust. Mus., xii., 1918, p. 24.

One of the most common species occurring in rock pools.

Order HETEROSOMATA.

Family PLEURONECTIDAE.

AMMOTRETIS TUDORI (McCulloch, 1914). (Bass Flounder.)

Ammotretis tudori McCulloch, Endeavor Res., ii., 1914, p. 124, pl. xxvi.

Order SCLEROPAREI.

Family SCORPAENIDAE.

NEOSEBASTES PANDUS (Richardson, 1842). (Gurnard Perch.)

Scorpaena panda Rich., A.M.N.H., ix., 1842, p. 216.

Neosebastes panda (Rich.), Guichenot, Mem. Soc. Sci. Cherbourg, xiii., 1867, p. (86?).

GYMNAPISTES MARMORATUS (Cuvier and Valenciennes, 1829). (Cobbler.)

Apistus marmoratus Cuv. and Val., Hist. Nat. Poiss., iv., 1829, *b*, p. 416.

Gymnapistes marmoratus (Cuv. and Val.), Swainson, Nat. Hist. Fish., ii., 1839, p. 266.

Family PLATYCEPHALIDAE.

PLATYCEPHALUS BASSENSIS (Cuvier and Valenciennes, 1829). (Sand Flathead.)

Platycephalus bassensis (Cuv. and Val., *loc. cit.*, 1829, *b*, p. 247.

Order PLECTOGNATHI.

Division SCLERODERMI.

Family MONACANTHIDAE.

The following members of this family were very common:—

CANTHERINES AYRAUDI (Quoy and Gaimard, 1824). (Yellow Leather Jacket.)

Balistes ayraud Q. and G., Voy, Uran. et Physic., 1824, p. 216, pl. xlvii., fig. ii.

Cantherines ayraudi (Q. and G.), Waite, *loc. cit.*, 1921, p. 186.

CANTHERINES SETOSUS (Waite, 1899). (Velvet Leather Jacket.)

Monacanthus setosus Waite, Mem. Aust. Mus., iv., 1899, p. 91, pl. xvi.

Cantherines setosus (Waite), Waite and McCulloch, T.R.S.S. Aust., xxxix., 1915, p. 472, pl. xiv.

CANTHERINES MOSAICUS (Ramsay and Ogilby, 1886). (Mosaic Leather Jacket.)

Monacanthus mosaicus Rams. and Ogil., P.L.S. N.S.W. (2), i., 1886, p. 5.

Cantherines mosaicus (Rams. and Ogil.), McCulloch, Endeavor Res., iii., 1915, p. 170, pl. xxxvii., figs. i., ii.

Family OSTRACIONTIDAE.

ARACANA ORNATA (Gray, 1838). (Common Cowfish.)

Aracana ornata Gray, A.M.N.H., i., 1838, p. 110

ARACANA FLAVIGASTRA (Gray, 1838). (Yellow-bellied Cowfish.)

Aracana flavigastra Gray, *loc. cit.*, 1838, p. 110.

Division GYMNODONTES.

Family TETRADONTIDAE.

SPHEROIDES PLEUOGRAMMA (Regan, 1902). (Common Toado.)

Tetrodon pleurogramma Regan, P.Z.S., 1902, p. 300, pl. xxiv., fig. ii.

Spheroides pleurogramma (Regan), McCulloch, Rec. W.A. Mus., i., 1914, p. 227; *idem*, Waite, Rec. S.A. Mus., ii., 1924, p. 486, pl. xxx., fig. ii.

Spheroides lacrimosus Waite, *loc. cit.*, 1923, p. 226.

TETRAODON ARMILLA (Waite and McCulloch, 1915). (Ringed Toado.)

Tetraodon armilla Waite and McCulloch, *loc. cit.*, 1915, p. 475, pl. xv.

H. J. GREEN, Government Printer, Melbourne.